



<http://www.biodiversitylibrary.org>

SIDA, contributions to botany.

[Dallas :W. F. Mahler, etc.]1962-

<http://www.biodiversitylibrary.org/bibliography/8113>

v.17 (1996): <http://www.biodiversitylibrary.org/item/34588>

Page(s): Page [697], Page 698, Page 699, Page 700, Page 701, Page 702, Page 703, Page 704, Page 705, Page 706, Page 707

Contributed by: Missouri Botanical Garden
Sponsored by: Missouri Botanical Garden

Generated 6 September 2010 6:50 PM
<http://www.biodiversitylibrary.org/pdf3/004150300034588>

This page intentionally left blank.

A SYNOPSIS OF THE GENUS *GENTLEA*
(MYRSINACEAE) AND A KEY TO THE GENERA
OF MYRSINACEAE IN MESOAMERICA

JON M. RICKETSON

Missouri Botanical Garden

P. O. Box 299

St. Louis, MO 63166-0299, U.S.A.

jricketson@lehmann.mobot.org

JOHN J. PIPOLY III

Botanical Research Institute of Texas

509 Pecan Street

Fort Worth, TX 76102-4060, U.S.A.

jpipoly@brit.org

ABSTRACT

An updated description of the genus *Gentlea* and its taxonomic synonyms is provided, along with a key and a nomenclatural summary for its nine species. Nine binomials are newly relegated to synonymy, and three taxa are excluded. *Heberdenia* Banks, once thought to occur in the Neotropics, is shown to be monotypic, and known only from the Canary Islands, necessitating the new combination *Gentlea penduliflora* (A. DC.) Ricketson & Pipoly. To facilitate identification of members of the genus *Gentlea*, a key to the genera of Mesoamerican Myrsinaceae is also provided.

RESUMEN

Se aporta un resumen nomenclatural para las nueve especies del género *Gentlea*. Se incluye una descripción actualizada del género con una clave para separar las especies. Se comprobó que el género *Heberdenia* es monotípico, y restringido a las Islas Canarias, resultando la nueva combinación *Gentlea penduliflora* (A. DC.) Ricketson & Pipoly. Para facilitar la identificación del género, se ofrece una clave para separar los géneros mesoamericanos de la familia Myrsinaceae. También se ofrece una clave para todos los taxa del género *Gentlea*, se enumeran sinónimos tanto nomenclaturales como taxonómicos. Se relegan nueve binomios a la sinonimia, y se excluyen tres taxa del género.

INTRODUCTION

The neotropical genus *Gentlea* Lundell, as here circumscribed, comprises nine species, ranging from Mexico to Peru. The genus occurs primarily in upper cloud and elfin forest formations, and is defined by long exerted stamens with minute dorsifixed cordate anthers, an elongated style, and terminal inflorescences that are short-pedunculate or sessile, and when paniculate, generally broader than long. The genus has been confused with

Cybianthus and with *Ardisia*, but given the confusion surrounding generic delimitation in the family, we present a key to all Mesoamerican genera below.

KEY TO GENERA OF MYRSINACEAE IN MESOAMERICA

1. Calyx closed in bud, irregularly opening into 2–8 lobes within the same inflorescence. **Geissanthus**
1. Calyx open in bud, opening into (3–)4–5(–6) lobes, the number of calyx lobes per flower consistent within one inflorescence.
 2. Calyx and corolla lobe valvate in bud.
 3. Flowers bisexual; inflorescences paniculate, longer than the petioles; branchlets tomentose with stellate or dendroid trichomes; calyx and corolla tomentose and glandular-papillose; anthers bright yellow; style elongate. **Parathesis**
 3. Flowers unisexual; inflorescences glomerulate, umbellate or rarely in reduced corymbs, much shorter than the petioles; branchlets glabrous or when tomentose, then with simple trichomes; calyx and corolla glabrous or the corolla sometimes glandular-papillose along the margin within; anthers cream to white; style obsolete or reduced. **Myrsine**
 2. Calyx and corolla quincuncial, imbricate (although sometimes inconspicuous) or contorted in bud.
 4. Filaments connate basally to form a staminal tube adnate to the corolla tube.
 5. Inflorescence lateral (axillary); corolla tube glandular-granulose at least at the junction of the tube and lobes. **Cybianthus**
 5. Inflorescence terminal; corolla tube glandular-puberulent at base. **Synardisia**
 4. Filaments free from each other and free from or variously adnate to the corolla tube.
 6. Filaments adnate to the corolla; anthers less than 3 times longer than wide.
 7. Filaments exerted, more than 6 times longer than the anthers; plants of elfin and cloud forests. **Gentlea**
 7. Filaments included, shorter than or as long as the anthers; plants of montane to lowland forests. **Stylogyne**
 6. Filaments free from corolla; anthers at least 3 times longer than wide.
 8. Petals connate 1/4 their length; ovules uniseriate, the placentation free-central. **Ctenardisia**
 8. Petals connate up to 1/5 their length; ovules pluriseriate, the placentation basal. **Ardisia**

In preparing a treatment of the genus for *Flora Mesoamericana*, it became necessary to assemble complete synonymies and bibliographic references for *Gentlea*. Because of the somewhat abbreviated format of the *Flora*, the present synopsis is intended to provide a complete nomenclator for *Gentlea*, which has been poorly understood.

TAXONOMIC TREATMENT

Gentlea Lundell, *Wrightia* 3:100. 1964. TYPE SPECIES: *Gentlea venosissima* (Ruíz & Pavón) Lundell. *Ardisia* Swartz subgen. *Walleniopsis* Mez in Engl., *Pflanzenr.* IV. 236 (Heft 9):77. 1902.

Dioecious *sbrubs* or small trees. *Leaves* alternate, petiolate. *Inflorescences* terminal, paniculate with corymbose branches, broader than long, short-pedunculate or sessile, rarely umbellate or a reduced to a solitary flower; floral bracts thin, caducous. *Flowers* 4(–6)-merous, unisexual, pedicellate; sepals inconspicuously imbricate, connate basally or nearly free; petals connate $1/4$ – $1/2$ their length into tube, the lobes imbricate in bud, spreading and sometimes appearing valvate at anthesis; stamens exerted, the filaments long and slender, more than 6 times longer than the anthers, the anthers minute, cordate, dorsifixed, epunctate or inconspicuously glandular-punctate dorsally; pistil ovoid or subglobose, the style slender, shorter or sometimes subequaling the corolla, the stigma punctiform, minute; ovules few to many, in 2 or more series. *Fruit* subglobose, one-seeded, exocarp thin, often drying costate.

A small distinctive genus of nine species ranging from Jalisco, Mexico to Venezuela, Colombia and Peru. Members of the genus occur in upper cloud and elfin forest formations. *Gentlea* can be confused with *Ardisia* in fruit, except that the inflorescence of those with panicles is wider than long (rare in *Ardisia*), and the fruit is either inconspicuously or conspicuously costate (smooth in *Ardisia*).

KEY TO SPECIES OF *GENTLEA*

1. Inflorescence umbellate or rarely a solitary flower 1. *G. penduliflora*
1. Inflorescence paniculate.
 2. Leaf blades elliptic or rhombic, densely lepidote below, the margin slightly to deeply crenulate in the distal $1/2$ 2. *G. vatteri*
 2. Leaf blades oblanceolate, obovate or oblong, glabrous or with scattered trichomes below, of various shapes except lepidote scales, the margin entire to crenulate or serrate with teeth uniform throughout.
 3. Inflorescence rachis and pedicels glabrous.
 4. Leaf margins entire 3. *G. standleyi*
 4. Leaf margins crenulate to serrulate.
 5. Leaf margins crenulate; petals translucent-lepidote abaxially. 4. *G. crenulata*
 5. Leaf margins serrulate; petals glabrous abaxially. 5. *G. tacanensis*
 3. Inflorescence rachis and pedicels glabrate, with a few scattered furfuraceous scales or simple, glandular trichomes, or tomentose with simple or dendroid trichomes.
 6. Inflorescence rachis and peduncle tomentose, with a dense mat of simple or dendroid hairs.
 7. Leaf blades chartaceous, 0.5–1.5(–1.8) cm wide, inconspicuously

- pellucid-punctate, the secondary and tertiary veins inconspicuous; sepals 0.8–1.2 mm long. 6. *G. lancifolia*
7. Leaf blades stiffly chartaceous to subcoriaceous, (1.5–)2.0–6.0 cm wide, prominently black punctate abaxially, the secondary and tertiary venation prominently raised; sepals 1.5–2 mm long. 7. *G. venosissima*
6. Inflorescence rachis and peduncle glabrate, with a few appressed or erect, scattered, simple or sessile glandular trichomes.
8. Pedicels with appressed glandular trichomes; sepals 1.2–1.8 mm long; petals 5–6 mm long; leaf blades 2–6(–8.5) cm long, 1–2.5 (–3.5) cm wide. 8. *G. austinsmithii*
8. Pedicels with mostly erect, simple or glandular hairs; sepals 2–3 mm long; petals 3.5–4.2 mm long; leaf blades (7.5–)10–23 cm long, (2.5–)4.5–6.5 cm wide 9. *G. micranthera*
1. ***Gentlea penduliflora*** (A. DC.) Pipoly & Ricketson, comb. nov. *Myrsine penduliflora* A. DC., Trans. Linn. Soc. London 17:110. 1834. *Heberdenia penduliflora* (A. DC.) Mez in Engl., Pflanzenr. IV. 236 (Heft 9):159. 1902. TYPE: *Calques Fl. Mexique* t. 739. 1874 (HOLOTYPE: G, F! as photo- f neg. no. 30749).

Upon review of the genus *Gentlea*, it became obvious that *Heberdenia penduliflora* could not be separated from it except for the inflorescence type. Further examination of the type of *Heberdenia excelsa* revealed that there were significant differences between that taxon and *H. penduliflora*. Therefore, transfer of *Heberdenia penduliflora* to *Gentlea* leaves *Heberdenia* a monotypic genus known primarily from the Canary Islands. *Heberdenia*, as here circumscribed, is characterized by having included stamens with filaments adnate to the corolla 1/2 their length and dorsifixed, reflexed anthers; greenish petals thick and "leathery," with few black punctations, and the adaxial surface densely covered with very short papillae. While *Heberdenia excelsa* superficially shares leaf and inflorescence characters with *Gentlea penduliflora*, the latter differs from the former in having exerted stamens with minute, erect, dorsifixed anthers and finally, membranaceous petals, with conspicuous reddish or black punctations, pink-white in color, and glabrous throughout.

Despite the fact that *Gentlea penduliflora* differs from the rest of the species in the genus by its inflorescence of umbellate flowers or rarely a solitary flower, versus a paniculate inflorescence in other members of the genus, but its exerted stamens with minute, dorsifixed anthers, elongated style, and costate fruit indicate it is well placed in *Gentlea*. There are various examples of species in other genera with markedly reduced inflorescence structures, such as *Myrsine laetevirens* (Mez) Arechav., the only *Myrsine* with an abbreviated raceme, *Stylogyne membranacea* Pipoly, the only *Stylogyne* with two-flowered corymbs, *Cybianthus fabiolae* Pipoly, the only *Cybianthus* with one flower or a two-flowered raceme appearing umbelliform, and

Ctenardisia stenobotrya (Standley) Pipoly & Lundell, the only *Ctenardisia* whose panicles bear flowers in umbels.

In attempting to locate the type of *Gentlea penduliflora*, study of the results from the Royal Botanical Expedition to Mexico led by Don Martín de Sessé and José Mariano Mociño between 1787 to 1804 was necessary. Results from that expedition are well chronicled by Barkley (1945), Rickett (1947), Wilson (1962), Arias Divito (1968) and McVaugh (1977, 1980, 1982). The expedition collected specimens that are housed at MA and their duplicates were later distributed by Pavón. However the most outstanding contribution of the expedition was the commissioning of 2,000 watercolored drawings of Mexican plants and animals. Work on the collections and drawings was slowed after the return of Sessé, the principal investigator, to a Spain in political turmoil, and his subsequent death in 1809. Mociño gave Augustin Pyramus de Candolle a number of duplicate drawings and lent him his manuscripts and the original drawings in 1813 when he was forced to take asylum in France. Approximately 1,000 color "copies" were made of the original drawings before they were returned with Mociño to Spain. Unfortunately, the original drawings disappeared after the death of Mociño in 1819 and were not rediscovered until the 1970s when they were acquired by the Hunt Institute for Botanical Documentation in Pittsburgh, Pennsylvania. A significant number of new genera and species are based on the collections that were released by MA and the copies made by A.P. de Candolle between 1803 and 1874. Alphonse de Candolle (1874) distributed 10 sets of tracings of the color copies of the original made by his father in 1817. Finally, two posthumous works of Sessé and Mociño, *Plantae Novae Hispaniae* and *Flora Mexicana*, were published between 1887 and 1894, nearly a century after the expedition occurred.

The above information is used to help illustrate the difficulty in tracking down the type of *Gentlea penduliflora*. Alphonse de Candolle first described this taxon in 1834 based on "Icon. Mexic. ined.," the Sessé and Mociño drawings. In his treatment of the Myrsinaceae for the DC. Prodrômus (1844), Alphonse lists only "Ex ic. ined. n. 739. fl. mexic." It seems fairly clear that Alphonse de Candolle based this name solely on the color copy in Geneva, since it appears that no actual collection is housed presently at G from that period and it is unlikely that he studied the Sessé and Mociño Herbarium in Spain. Therefore, this is a holotype and no lectotypification is needed. The first plant collections at G do not appear until the 1840s. In addition, since the originals disappeared for over 150 years and Alphonse de Candolle was only 10 years old when the originals were returned to Spain, it is unlikely that they could have been used to describe the taxon 17 years later. Comparison of the original drawing at

Hunt and the copy in Geneva are very similar with only slight, non-essential differences, owing to differences in the portions painted. Thus, we select the original color copy in Geneva (t. 739) as the lectotype. This drawing was photographed by the Field Museum of Natural History (Neg. No. 30749) and photo's are widely distributed in many herbaria. Unfortunately, the original drawing now housed in the Torner Collection at the Hunt Institute for Botanical Documentation at the Carnegie Mellon University in Pittsburgh, Pennsylvania, becomes nomenclaturally irrelevant.

Distribution and ecology.—*Gentlea penduliflora* is infrequent in pine-oak forests on steep slopes and along montane watercourses, 1,400–2,900 m elevation. It is endemic to Mexico, in the states of Queretaro, Hidalgo, Puebla, Veracruz, Oaxaca and Chiapas.

2. ***Gentlea vatteri*** (Standl. & Steyerl.) Lundell, *Wrightia* 3:102. 1964. *Ardisia vatteri* Standl. & Steyerl., Publ. Field Mus. Nat. Hist., Bot. Ser. 23:220. 1947. TYPE: GUATEMALA. HUEHUETENANGO: Cerro Huitz, between Mimanhuitz and Yulhuitz, Cerro de los Cuchumatanes, 1,500–2,600 m, 14 Jul 1942 (fl), J.A. Steyerl. 48558 (HOLOTYPE: F!; ISOTYPE: US!).

Distribution and ecology.—*Gentlea vatteri* is locally common in the wet cloud forests of Guatemala and El Salvador, at 1,500–3,300 m elevation.

3. ***Gentlea standleyi*** Lundell, *Wrightia* 4:69. 1968. *Ardisia standleyi* (Lundell) Lundell, *Phytologia* 61:67. 1986. TYPE: COSTA RICA. HEREDIA: Cerros de Zurquí, NE of San Isidro, 2,000–2,400 m (fr), 03 Mar 1926, P.C. Standley & J. Valerio 50613 (HOLOTYPE: US!; ISOTYPE: LL-TEX!).

Ardisia minor Standl., J. Wash. Acad. Sci. 17:522. 1927, nom. illeg. non King & Gamble, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74:146. 1906. Syn. nov. *Gentlea minor* (Standl.) Lundell, *Wrightia* 3:104. 1964, nom. illeg. *Gentlea costaricensis* Lundell, *Wrightia* 6:115. 1980. TYPE: COSTA RICA. HEREDIA: Cerro de Zurquí, NE of San Isidro, ca. 2,200 m (fr), 03 Mar 1926, P.C. Standley & J. Valerio 50571 (HOLOTYPE: US!).

Distribution and ecology.—*Gentlea standleyi* is endemic to Costa Rica, growing in premontane wet forests, at 1,100–2,400 m elevation.

The type of *Ardisia minor* was collected from the same locality, on the same day as was the type of *Gentlea standleyi*, and differs only slightly in appearance. Lundell failed to compare his *Gentlea costaricensis* to *Gentlea standleyi*.

4. ***Gentlea crenulata*** Lundell, *Wrightia* 6:96. 1979. *Ardisia contrerasii* Lundell, *Phytologia* 61:63. 1986, non *Ardisia crenulata* C. Lodd., Bot. Cab. 1: t. 2. 1817, non *Ardisia crenulata* Vent., Choix Pl., 5, t. 5. 1803. TYPE: GUATEMALA. BAJA VERAPAZ: Niño Perdido, bordering Río San José, 8 km N, in high forest, on top of hill, 27 May 1977 (fl, fr), C.L. Lundell & E. Contreras 21004 (HOLOTYPE: LL-TEX!; ISOTYPES: CAS!, LL-TEX! -2 SHEETS.).

Distribution and ecology.—Because it is endemic to Guatemala and known

only from the type collection, there is a dearth of information about its ecology.

5. *Gentlea tacanensis* (Lundell) Lundell, *Wrightia* 3:105. 1964. *Ardisia tacanensis* Lundell, *Contr. Univ. Michigan Herb.* 4:21. 1940. TYPE: MEXICO. CHIAPAS: west side of Volcán de Tacaná, 2,800 m, 30 Mar 1939 (fl), *E. Matuda S-226* (HOLOTYPE: MICH!; ISOTYPES: A!, F!, LL-TEX!, NY!, US!).

Distribution and ecology.—Wet montane evergreen cloud forests, 1,300–3,000 m elevation. Endemic to the area around Volcán Tacaná on the Chiapas, México-San Marcos, Guatemala border and Volcán Tajumulco in Guatemala.

6. *Gentlea lancifolia* Lundell, *Phytologia* 58:273. 1985. *Ardisia intibucana* Lundell, *Phytologia* 61:65. 1986, non *Ardisia lancifolia* Merr., *Philipp. J. Sci.* 13:113. 1918. TYPE: HONDURAS. INTIBUCA: between Calaveras and El Duraznillo, cordillera Opalaca, 1,800 m, 12 Mar 1970 (fr), *A. Molina R. & A.R. Molina 25547* (HOLOTYPE: F!; ISOTYPE: US!).

Distribution and ecology.—Montane rain forest to elfin forest and cloud forests, 800–1,800 m elevation. Honduras and Nicaragua.

7. *Gentlea venosissima* (Ruíz & Pavón) Lundell, *Wrightia* 3:103. 1964. *Caballeria venosissima* Ruíz & Pavón, *Syst. Veg. Fl. Peruv. Chil.* 282. 1798. *Myrsine venosissima* (Ruíz & Pavón) Spreng., *Syst. Veg.* 1:664. 1825. *Ardisia venosissima* (Ruíz & Pavón) J.F. Macbr., *Fieldiana, Bot.* 13:186. 1959. TYPE: PERU. HUÁNUCO: Muña, without elevation, 1878–1888, (fl, fr), *H. Ruíz & J. Pavón 5/37* (HOLOTYPE: MA, n.v., F Neg. 29508!).

Ardisia propinqua Kunth in H.B.K., *Nov. Gen. Sp.* 7:213. 1825. Syn. nov. *Gentlea propinqua* (Kunth) Lundell, *Wrightia* 4:166. 1971. TYPE: VENEZUELA. Crescit juxta ripam fluminis Orinoci, without elevation or date (fr), *Humboldt & Bonpland s.n.* (HOLOTYPE: P-BON!; ISOTYPE: P-BON, F! as photo-F NEG. 38723!).

Ardisia breviflora A. DC., *Prodr.* 8:122. 1844. *Tinus breviflora* (A. DC.) Kuntze, *Revis. Gen. Pl.* 2:974. 1891. TYPE: PERU. HUÁNUCO: Muña, without elevation or date (fr), *J. Pavón* (HOLOTYPE: G-BOIS, n.v., F! as photo-F Neg. 8524; ISOTYPES: F!, MA, n.v.).

Ardisia robinsonii Mez in Engl., *Pflanzenr.* IV. 236 (Heft 9):77. 1902. TYPE: VENEZUELA. MIRANDA-ARAGUA: between Caracas and Colonia Tovar [prope coloniam Tovar], 6,000 ft [1,829 m], 26 Mar 1857 (fl), *A. Fendler 2357* (HOLOTYPE: GH!).

Ardisia meiantha Donn. Smith, *Bot. Gaz.* 44:115. 1907. TYPE: COSTA RICA. CARTAGO: vicinity of Cartago, 1,500 m, 19 Apr 1906 (fl), *W.R. Maxon 44* (HOLOTYPE: NY!; ISOTYPES: US 2 SHEETS!).

Stylogyne phaenostemona Donn. Sm., *Bot. Gaz.* 46:113. 1908. *Ardisia phaenostemona* (Donn. Sm.) Lundell, *Wrightia* 3:78. 1964. TYPE: GUATEMALA. ALTA VERAPAZ: Coban, 1,350 m, Jun 1907 (fl), *H. von Türckheim 11814* (HOLOTYPE: US!; ISOTYPES: C!, GH!, LL-TEX!, NY!, US!).

Ardisia meridensis Steyermark, *Fieldiana, Bot.* 28:454, fig. 95. 1953. TYPE: VENEZUELA. MÉRIDA: between Mucuchachi and Canagua, 1,065–1,820 m, 6 May 1944 (fl), *J.A. Steyermark 56325* (HOLOTYPE: F!; ISOTYPES: F!, NY!, VEN, n.v.).

Gentlea tenuis Lundell, *Wrightia* 7:24. 1981. Syn. nov. *Ardisia jitotolana* Lundell,

Phytologia 61:65. 1986, non *Ardisia tenuis* Lundell, Wrightia 4:149. 1970. TYPE: MEXICO. CHIAPAS: Municipio de Rayón, in the Selva Negra 10 km above Rayón Meycalapa along road to Jitotol, 1,700 m, 12 Dec 1971 (fl), D.E. Breedlove 23144 (HOLOTYPE: F!; ISOTYPES: DS!, LL-TEX!, MO!, NY!).

Distribution and ecology.—Montane rain forests, evergreen cloud forests, premontane wet forests, 400–2,700 m. The most widely distributed species of the genus, *Gentlea venosissima* ranges from Oaxaca, Mexico southward through Mesoamerica to Venezuela, Colombia and Peru. It is expected, but has not as yet been collected, in Ecuador.

In many broadly ranging species of Myrsinaceae, most of the taxonomic overdescription for this species is attributable to the use of combinations of quantitative features to define taxa and differences in the expression of qualitative ones. Populations corresponding to the type of *Ardisia propinqua* Kunth are notable only for their slightly thinner leaves and less prominent punctations. The type of *Ardisia breviflora* is notable only for the slightly more persistent tomentum of the apical buds and more highly branched inflorescences. The type of *Ardisia robinsonii* represents populations from Colonia Tovar in Venezuela, with sepal apices slightly more acute, and petal punctations brown instead of black. The types of *Ardisia meiantha* and *Stylogyne phaenostemona* are notable only for their more sessile inflorescences and acuminate leaf apices. *Ardisia meridensis* is quantitatively and qualitatively identical to the type of *Gentlea venosissima*. Populations corresponding to the type of *Gentlea tenuis* are notable only in their very thin and inconspicuously punctate sepals and petals. Another common problem is that the species have been treated regionally, thus names are rarely compared over a range as large as Mesoamerica.

8. *Gentlea austinsmithii* (Lundell) Lundell, Wrightia 4:68. 1968. *Ardisia austinsmithii* Lundell, Contr. Univ. Michigan Herb. 7:36. 1942. TYPE: COSTA RICA. ALAJUELA: Region of Zarcero, Palmira, ca. 1,920 m, 9 Dec 1937 (fl), Austin Smith A673 (HOLOTYPE: MICH!; ISOTYPES: F!, MO!).

Gentlea molinae Lundell, Wrightia 4:150. 1970. Syn. nov. *Ardisia molinae* (Lundell) Lundell, Phytologia 61:65. 1986. TYPE: HONDURAS. LA PAZ: Montaña Verde on Cordillera Guajiquiro, 1,900 m, 23 Mar 1969 (fr), A. Molina R. & A.R. Molina 24389 (HOLOTYPE: LL-TEX!; ISOTYPES: F!, LL-TEX!, NY!).

Gentlea parviflora Lundell, Wrightia 5:89. 1975. Syn. nov. *Ardisia parvissima* Lundell, Phytologia 61:66. 1986, non *Ardisia parviflora* Talbot, Syst. list Trees, Bombay ed. 2, 204. 1902. TYPE: GUATEMALA. BAJA VERAPAZ: Union Barrios, in high forest, on top of hill, E of km 154, 11 Apr 1975 (fl), C.L. Lundell & E. Contreras 19212 (HOLOTYPE: LL-TEX!; ISOTYPES: CAS!, LL-TEX!).

Distribution and ecology.—*Gentlea austinsmithii* occurs in wet premontane, montane, elfin and cloud forests, and along watercourses in oak forests from Guatemala to Panama at 400–2,500 m elevation.

The type of *Gentlea molinae* Lundell, described in fruit, is notable only

for its slightly longer petioles and more prominent pitting on the abaxial surface. Populations represented by the type of *Gentlea parviflora* differ from the majority of populations of *G. austinsmithii* because of their more membranaceous leaves and slightly smaller flowers.

9. *Gentlea micranthera* (Donn.Sm.) Lundell, *Wrightia* 4:69. 1968. *Parathesis micranthera* Donn.Sm., *Bot. Gaz.* 18:205. 1893, non *Ardisia micranthera* Pitard in Lecomte, *Fl. Gen. Indo-Chine* 3:817. 1930. *Ardisia micrantha* Donn.Sm., *Bot. Gaz.* 14:27. 1889, nom. illeg., non *Ardisia micrantha* Kunth in H.B.K., *Nov. Gen. Sp.* 3:246. 1818. *Gentlea micrantha* (Donn.Sm.) Lundell, *Wrightia* 3:107. 1964, nom. illeg. *Ardisia staminosa* Lundell, *Wrightia* 3:78. 1963. TYPE: GUATEMALA. ALTA VERAPAZ: mountain forest near Coban, 4,600 ft [1,402 m], Mar, 1888 (fl), *H. von Türckheim* 1365 (HOLOTYPE: US!; ISOTYPES: F!, G!, GH!, LL-TEX!, NY!).

Gentlea mcvaughii (Lundell) Lundell, *Wrightia* 3:106. 1964. Syn. nov. *Ardisia mcvaughii* Lundell, *Wrightia* 3:77. 1963. TYPE: MEXICO. JALISCO: steep mountains 11–12 mi S of Talpa de Allende, in the headwaters of a west branch of Río de Talpa, barranca above a rapid clear stream, 1,200–1,700 m, 18–19 Oct 1960 (fl), *R. McVaugh* 20396 (HOLOTYPE: MICH!; ISOTYPE: LL-TEX!, MEXU!).

Gentlea cuneifolia Lundell, *Wrightia* 7:245. 1983. Syn. nov. *Ardisia cuneifolia* (Lundell) Lundell, *Phytologia* 61:63. 1986. TYPE: MEXICO. VERACRUZ: Municipio de San Andrés Tuxtla, cerca del aguaje en el lado S del Volcán San Martín Tuxtla, 1,250 m, 15 Feb 1972 (fr), *J.H. Beaman & C. Alvarez del Castillo* 5751 (HOLOTYPE: LL-TEX!; ISOTYPES: F!, MEXU!).

Gentlea auriculata Lundell, *Phytologia* 58:273. 1985. Syn. nov. *Ardisia parviauriculata* Lundell, *Phytologia* 61:66. 1986, non *Ardisia auriculata* Donn.Sm., *Bot. Gaz.* 24:395. 1897. TYPE: GUATEMALA. ZACAPA: Sierra de Las Minas, middle and upper south-facing slopes of Volcán Gemelos, 2,100–3,200 m, 26 Jan 1942 (fl, fr), *J.A. Steyermark* 43277 (HOLOTYPE: F!; ISOTYPES: LL-TEX!, US!).

Gentlea maculata Lundell, *Phytologia* 58:274. 1985. Syn. nov. *Ardisia morazanensis* Lundell, *Phytologia* 61:66. 1986, non *Ardisia maculata* Poit. ex A. DC., *Trans. Linn. Soc., London* 17:116. 1834. TYPE: HONDURAS. FRANCISCO MORAZAN: on mountain La Tigra, SW of San Juancito, 1,800–2,100 m, 02 Feb 1966 (fl), *A. Molina R., L.O. Williams, W.C. Burger & B. Wallenta* 16972 (HOLOTYPE: F!; ISOTYPES: NY!, US!).

Distribution and ecology.—Premontane, montane rain forests, evergreen cloud forests, primary forests, 900–3,300 m. A widely distributed species, from Jalisco, Veracruz and Chiapas, Mexico to Costa Rica.

The type of *Gentlea mcvaughii* represents populations with yellowish-green (instead of green) flowers and very short inflorescences. Populations corresponding to the type of *Gentlea cuneifolia* are notable only for their more cuneate leaf bases and inflorescence branches more densely glandular-puberulent. The type of *Gentlea maculata* is notable only for its slightly longer flowers.

EXCLUDED NAMES

Ardisia mexicana Lundell, *Wrightia* 3:77. 1963. *Gentlea mexicana* (Lundell) Lundell, *Wrightia* 5:44. 1974. TYPE: MEXICO. JALISCO: crest of ridge facing the

Pacific, 10 mi S of Autlán, ca. 5,700 ft [1,737 m], 20 Aug 1949 (fl), *R.L. Wilbur & C.R. Wilbur 2460* (HOLOTYPE: LL!; ISOTYPE: MICH!).

This species is a member of *Ardisia* subgenus *Icacorea* (Aubl.) Mez, on account of its furfuraceous-lepidote leaves and ciliolate calyx margins. However, we have as yet to determine if this species has an earlier name in *Ardisia*.

Gentlea latisepala Lundell, *Wrightia* 5:4. 1972. TYPE: GUATEMALA. BAJA VERAPAZ: Chilasco, on Concepción Road, without elevation, 29 Jul 1971 (fr), *E. Contreras 10927* (HOLOTYPE: LL-TEX!).

This species belongs to *Ardisia* Subgenus *Icacorea* (Aubl.) Mez, and specifically, to the *Ardisia costaricensis* Lundell complex of species. However, in the absence of flowers, we have been unable to determine its exact systematic position.

Gentlea stevensii Lundell, *Wrightia* 6:97. 1979. *Ardisia stevensii* (Lundell) Lundell, *Phytologia* 61:67. 1986. TYPE: NICARAGUA. CHONTALES: ca. 2.8 km above (N of) Cuapa, 400–500 m, 21 Jan 1978 (fr), *W.D. Stevens 6053* (HOLOTYPE: LL-TEX!; ISOTYPE: MO!).

This species is a synonym of *Ardisia densiflora* Krug & Urban. Upon closer examination of the specimens, their sessile fruits and prominently rugose calyx lobes leave no doubt as to the true identity of this taxon.

ACKNOWLEDGMENTS

We thank the Missouri Botanical Garden and the Flora Mesoamericana Project for funding that allowed J. Ricketson (MO) to travel to Fort Worth, where he was joined by J. Pipoly (BRIT) on visits to the C.L. Lundell Herbarium (LL-TEX) housed at the University of Texas at Austin. We are grateful to the staff of TEX, especially Tom Wendt, Carol Todzia and Billie Lee Turner, for their cooperation and hospitality. We are also grateful to the assistance given to us by Gerrit and Jeany Davidse, Linda Oestry and Catherine Mayo (MO), Barney Lipscomb, Lindsay Woodruff, Stacy Miles and Jim Rivers (BRIT). Our most sincere gratitude is also given to Rogers McVaugh, who generously gave us information regarding the Sessé and Mociño plates. We gratefully acknowledge the assistance of James T. White, Curator of Art and Principal Research Scholar at the Hunt Institute for Botanical Documentation in Pittsburgh, who generously provided us with a copy and slide of the original plate of *Heberdenia penduliflora*. Charlotte Taylor, Gerrit Davidse, and Barney Lipscomb reviewed the manuscript and provided helpful suggestions.

REFERENCES

- ARIAS DIVITO, J.C. 1968. Las Expediciones Científicas Españolas Durante el Siglo XVIII. 427 pp., 59 plates. Real Jardín Botánico, Madrid.

- BARKLEY, F.A. 1945. Spanish Botanical Expedition to New Spain from 1787 to 1804: The Anacardiaceae of Sessé and Mociño. *Biologist* 28:9–23.
- CANDOLLE, A. De., J.M. MOCIÑO, and J.M. DE SESSÉ. 1874. Calques des dessins de la flore du Mexique, de Mociño et Sessé qui ont servi de types d'espèces dans le Systema ou le Prodromus, 10 pp., 1171 plates. Geneva.
- LUNDELL, C.L. 1964. Studies of the American Myrsinaceae—II. *Wrightia* 3:97–114.
- McVAUGH, R. 1977. Botanical results of the Sessé and Mociño Expedition (1787–1803): I. Summary of Excursions and Travels. *Contr. Univ. Michigan Herb.* 11:97–195.
- . 1980. Botanical results of the Sessé and Mociño Expedition (1787–1803): II. The Icones Florae Mexicanae. *Contr. Univ. Michigan Herb.* 14:99–140.
- . 1982. The lost paintings of the Sessé and Mociño Expedition: A newly available resource. *Taxon* 31:691–692.
- RICKETT, H.W. 1947. The Royal Botanical Expedition to New Spain. *Chron. Bot.* 11:1–86, plates 44–52.
- WILSON, I.H. 1962. Scientific aspects of Spanish exploration in New Spain during the late eighteenth century [i-x], 330 pp. Ph.D. thesis, Univ. of Southern California.